

**UNITED STATES DISTRICT COURT  
NORTHERN DISTRICT OF OHIO  
EASTERN DIVISION**

<b>HICKOK INCORPORATED,</b>	)	<b>CASE NO. 1:07CV3565</b>
	)	
<b>Plaintiff,</b>	)	<b>JUDGE CHRISTOPHER A. BOYKO</b>
	)	
<b>vs.</b>	)	<b><u>OPINION AND ORDER</u></b>
	)	
<b>SYSTECH INTERNATIONAL, LLC, et al.,</b>	)	
	)	
<b>Defendants.</b>	)	

**CHRISTOPHER A. BOYKO, J.:**

This matter comes before the Court upon the Motion (ECF DKT #148) of Defendants, Systech International, LLC and Delphi Corporation, for Partial Summary Judgment of Non-Infringement. For the following reasons, the Motion is granted in part and denied in part.

**I. BACKGROUND**

On November 15, 2007, Plaintiff, Hickok Incorporated, filed a Complaint for Patent Infringement involving U.S. Patent Nos. 6,298,712 (the ‘712 Patent) and 6,840,089 (the ‘089 Patent) against Defendant Systech International, LLC. Defendant Delphi Corporation was named in a Second Amended Complaint on June 12, 2008. Delphi is in the automotive parts business; and, beginning in 2007, Delphi was Systech’s distribution partner in the emissions

testing business in California. Under the terms of the distributorship agreement, Systech must indemnify and hold Delphi harmless for any patent infringement liability. On June 30, 2008, Systech filed its Answer and on August 1, 2008, Delphi filed its Answer. Both Defendants also filed Counterclaims for Non-Infringement, Invalidity and Unenforceability.

The Claim Construction process was conducted with the assistance of a Special Master; and the Court issued its Claim Construction Opinion on April 26, 2013. On December 1, 2014, Defendants filed their Motion for Partial Summary Judgment on Counts I and II of the Second Amended Complaint and Counts I and II of Defendants' Counterclaims, seeking judgment in their favor for Non-Infringement of both the '712 and the '089 Patents. The Motion has been fully briefed.

The '712 and '089 Patents relate to testing for acceptable leakage in a fuel system. Specifically, the '712 Patent relates to fuel cap leak testing and the '089 Patent relates to fuel tank leak testing. The inventions embodied in these Patents are in response to the leakage rate standards set by the Federal Environmental Protection Agency as well as other governmental entities. However, due to the cost and complexity of accurate leakage testing, providing a workable system for large scale testing of vehicles is not routine. The systems of the '712 and '089 Patents provide testing based on a leakage through the subject of the test (either the tank or fuel cap) and an orifice. Briefly stated, the primary principle of operation of the Patents includes: comparing a ratio of the time to leak through the subject of the test and the orifice and the time to leak through just the orifice to a standard ratio to determine whether the leak rate is acceptable.

According to Plaintiff, the accused infringing devices are Systech's pre-2008 versions

of the gas cap tester and the gas tank tester.

## **II. LAW AND ANALYSIS**

### **Summary Judgment Standard of Review**

Summary judgment shall be granted only if “the movant shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law.” *See* Fed.R.Civ.P. 56(a). The burden is on the moving party to conclusively show no genuine issue of material fact exists. *Celotex Corp. v. Catrett*, 477 U.S. 317, 323 (1986); *Lansing Dairy, Inc. v. Espy*, 39 F.3d 1339, 1347 (6th Cir. 1994). The moving party must either point to “particular parts of materials in the record, including depositions, documents, electronically stored information, affidavits or declarations, stipulations, admissions, interrogatory answers, or other materials” or show “that the materials cited do not establish the absence or presence of a genuine dispute, or that an adverse party cannot produce admissible evidence to support the fact.” *See* Fed.R.Civ.P. 56(c)(1)(A), (B). A court considering a motion for summary judgment must view the facts and all inferences in the light most favorable to the nonmoving party. *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 587 (1986). Once the movant presents evidence to meet its burden, the nonmoving party may not rest on its pleadings, but must come forward with some significant probative evidence to support its claim. *Celotex*, 477 U.S. at 324; *Lansing Dairy*, 39 F.3d at 1347.

This Court does not have the responsibility to search the record *sua sponte* for genuine issues of material fact. *Betkerur v. Aultman Hospital Ass 'n.*, 78 F.3d 1079, 1087 (6th Cir. 1996); *Guarino v. Brookfield Township Trustees*, 980 F.2d 399, 404-06 (6th Cir. 1992). The

burden falls upon the nonmoving party to “designate specific facts or evidence in dispute,” *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 249-50 (1986); and if the nonmoving party fails to make the necessary showing on an element upon which it has the burden of proof, the moving party is entitled to summary judgment. *Celotex*, 477 U.S. at 323. Whether summary judgment is appropriate depends upon “whether the evidence presents a sufficient disagreement to require submission to a jury or whether it is so one-sided that one party must prevail as a matter of law.” *Amway Distributors Benefits Ass 'n v. Northfield Ins. Co.*, 323 F.3d 386, 390 (6th Cir. 2003) (quoting *Anderson*, 477 U.S. at 251-52).

In the present action, Plaintiff has the burden of proving Patent Infringement by a preponderance of the evidence. *Bayer AG v. Elan Pharm. Research Corp.*, 212 F.3d 1241, 1247 (Fed.Cir. 2007); *see also Kegel Co., Inc. v. AMF Bowling, Inc.*, 127 F.3d 1420, 1425 (Fed.Cir. 1997) (“The [patentee] has the burden of proving infringement by a preponderance of the evidence.”).

### **Infringement**

Patent infringement results when a person “without authority makes, uses or sells any patented invention, within the United States ... during the term of the patent.” 35 U.S.C. § 271(a). An infringement determination involves a two-step analysis. *See Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 976 (Fed.Cir. 1995). The court must first construe the asserted claims to ascertain their meaning and scope. *See id.* Claim construction is a question of law. *See Cybor Corp. v. FAS Techs.*, 138 F.3d 1448, 1454 (Fed.Cir. 1998). The trier of fact must then compare the properly construed claims with the accused infringing product. *See Markman*, 52 F.3d at 976. This second step is a question of fact. *See Bai v. L &*

*L Wings, Inc.*, 160 F.3d 1350, 1353 (Fed.Cir. 1998). Summary judgment is appropriate only when “there is no genuine issue as to whether the accused device is encompassed by the claims.” *Baran v. Medical Device Technologies, Inc.*, 666 F.Supp.2d 776 (N.D. Ohio 2009).

Literal infringement results if the accused infringing product contains every limitation of the asserted claims. *Bayer*, 212 F.3d at 1247. “If any claim limitation is absent from the accused device, there is no literal infringement as a matter of law.” *Id.* If an asserted claim does not literally infringe, infringement may still occur under the doctrine of equivalents if there is not a substantial difference between the limitations of the claim and the accused product. *Id.* at 1250. The inquiry under the doctrine of equivalents is whether an element of an accused product “performs substantially the same function in substantially the same way to obtain the same result” as the corresponding element of the patented invention. *Cephalon, Inc. v. Watson Pharm. Inc.*, 707 F.3d 1330, 1340 (Fed.Cir. 2013). Put another way, infringement under this doctrine “requires that any difference between the claim elements at issue and the corresponding elements of the accused product be insubstantial.” *Novartis Pharmaceuticals Corp. v. Eon Labs Mfg., Inc.*, 363 F.3d 1306, 1312 (Fed.Cir. 2004).

#### **Fuel Cap Testers and the ‘712 Patent**

The ‘712 Patent has a single claim:

1. A method for testing fuel caps comprising the steps of:
  - a) pressurizing an air reservoir to a predetermined first pressure;
  - b) permitting air within said air reservoir to pass to the fuel cap under test and also through a reference orifice until a

- predetermined second pressure has been reached;
- c) actuating a timer when said second predetermined pressure has been reached;
- d) allowing air from said air reservoir to continue to pass to the fuel cap under test and through said reference orifice until a predetermined third pressure has been reached;
- e) **storing the elapsed time** on the timer and stopping air flow from said air reservoir to the fuel cap under test;
- f) allowing air from said air reservoir to continue to pass to said reference orifice until a predetermined fourth pressure has been reached;
- g) actuating said timer when said predetermined fourth pressure has been reached;
- h) allowing air from said air reservoir to continue to flow to said reference orifice until a predetermined fifth pressure has been reached;
- i) **storing the elapsed time** on the timer; and
- j) **comparing the ratio of the first stored time with the second stored time against a predetermined standard ratio** to determine whether the fuel cap under test has an acceptable leakage rate.

(Emphasis added).

Defendants argue that the Systech gas cap tester does not store elapsed times as required by claim 1, (e) and (i). Also, Defendants insist that their gas cap tester does not compare any time ratio to a standard as required by claim 1, (j).

Plaintiff proffers the reports of experts, Majid Rashidi, Ph.D., P.E. and Paul L. Shick, Ph.D., and counters that it is impossible to perform a regression analysis, like Defendants describe, without including time as the independent variable and associating each pressure point with a unit of time. Shick opines that Systech's "ratio of slopes" of depressurizing is mathematically the same as Hickok's calculation of measured times. Rashidi states that both the Systech and Hickok devices create a pass/fail score by determining "two slopes from a two-step test of a 'pressure decay' versus 'time.'"

Plaintiff also insists that the Systech gas cap tester compares a ratio of stored elapsed times to a predetermined standard ratio. Plaintiff asks the Court to look to the Declaration of Bruce Kohn, a vice president at Systech who is employed in research and development for vehicle emissions testing and who is familiar with the accused devices. Kohn declares that a pass/fail determination is made by "comparing the gas cap leak ratio for the cap under test to a previously determined calibrated test ratio." (ECF DKT #149 at ¶ 10(l)). Rashidi then explains that the "gas cap leak ratio" described by Kohn can be reduced to a ratio of two elapsed *times* that is measured against a predetermined ratio to determine pass/fail.

Defendants assert that their device is not programmed to perform any addition operation or "calculation" as discussed by Rashidi and Shick.

The Court is faced with opposing descriptions of fuel cap tester functions. Defendants have not shown the absence of genuine issues of fact as to whether the Systech gas cap tester

infringes the '712 Patent either literally or under the doctrine of equivalents. Summary judgment in Defendants' favor is not appropriate.

**Modified Gas Cap Tester**

The parties spend a good deal of time discussing the modified version of Systech's gas cap tester. Despite what was contained in Plaintiff's Amended Infringement Contentions served in June of 2013, Plaintiff now states unequivocally that "the accused devices are limited to the original gas cap tester. Defendant's discussion of the modified cap tester is not relevant to this case." (ECF DKT #156 at 12). "Hickok does not believe that an analysis of the modified cap tester is necessary because the modified device was produced (if it was ever produced) after the accused units were manufactured." (ECF DKT #156 at 20). Since the modified gas cap tester is not an accused device, summary judgment is granted in favor of Defendants for Non-Infringement of the '712 Patent as to this device only.

**Fuel Tank Tester and the '089 Patent**

The '089 Patent has five claims and the parties address claim 5 first:

5. A method for testing a fuel tank utilizing a fuel tank tester connected to the fuel tank to be tested and having a reference orifice contained therein, said method comprising the steps of:
  - a) Pressurizing the fuel tank by utilizing an external source of pressure;
  - b) Allowing pressure within the fuel tank to stabilize at a predetermined first pressure;



- c) **Actuating a timer** when said pressure within the fuel tank has stabilized at **said predetermined first pressure**;
- d) Allowing gas from the fuel tank to pass through the combination of any leaks which might exist in the fuel tank and a said reference orifice contained in said fuel tank tester until a **predetermined second pressure** has been reached;
- e) Storing the elapsed time on the timer and stopping gas flow through said reference orifice;
- f) Repressurizing the fuel tank by utilizing the external source of pressure;
- g) Allowing gas within the fuel tank to stabilize at **said predetermined first pressure**;
- h) **Actuating said timer** when said pressure within the fuel tank has stabilized at said predetermined first pressure;
- i) Allowing gas from the fuel tank to decay through any leaks which might exist in the fuel tank until **said predetermined second pressure** has been reached;
- j) Storing the elapsed time on the timer; and
- k) Comparing the ratio of the stored time in step e) with the stored time in step j) against a predetermined standard ratio to determine whether the fuel tank has an acceptable

leakage rate.

(Emphasis added).

Defendants contend that the Systech fuel tank tester does not actuate a timer at the commencement of the decay stages as required by (c) and (h) of claim 5. Plaintiff argues that the testimony of Systech's own employee, Bruce Kohn, belies that position. At § 11(h) of his Declaration, Kohn says: "The microprocessor continues to monitor the pressure in the tank at each polling loop and stores the tank pressure reading **with its associated time stamp** during the LR decay stage..." (Emphasis added). Further, the Claim Construction defines "actuating a timer" as moving or setting in action a device that measures or records time. (ECF DKT #123 at 16).

Defendants assert that their device does not begin and end the two decay stages at the same pressure levels as required by (b)-(d) and (g)-(i) of claim 5. Plaintiff counters that the '089 Patent does not actually teach the requirement that the two decay stages must begin and end at the *same* pressure levels; rather, the Claim Construction interpreted that each decay stage begins and ends at a pressure point that is *predetermined*.

According to Defendants, the Systech fuel tank tester does not perform a second stabilization step as required by (g) of claim 5. Plaintiff disagrees. As Hickok's systems engineer, George Hart, notes, both Hickok's and Systech's devices provide a quick pass/fail option for states like California that require it: "The quick pass/fail feature can stop the test procedure after the first decay. The fuel tank is not repressurized a second time when the first decay demonstrates that the fuel tank under test is obviously far within or outside acceptable ranges." (Hart Declaration, ECF DKT #156-6, ¶ 12). The accused device's primary function

necessitates repressurization for a second decay stage.

Defendants contend that the Systech device does not compare ratios of stored times as required by (k) of claim 5. As with the fuel cap tester analysis, Plaintiff's experts opine that the "ratio of rates" performed by the fuel tank tester is mathematically identical to the ratio of elapsed time described in the '089 Patent (Shick Report); and both devices compare those ratios to a standard, and the calculations applied yield nearly identical results (Rashidi Report).

Claims 1-4 of the '089 Patent read as follows:

1. A fuel tank tester utilizing an external source of pressure for testing purposes comprising means for connecting the external source of pressure to said fuel tank tester, means for connecting said fuel tank tester to the fuel tank being tested, means for determining the pressure within the fuel tank being tested, a reference orifice contained within said fuel tank tester, means for directing gas from the fuel tank to said reference orifice, means for determining the time required for the pressure within the fuel tank to decay, between predetermined pressure levels, through any leaks which might exist in the fuel tank and the time required for the pressure within the fuel tank to decay, between predetermined pressure levels, through the combination of any leaks which might exist in the fuel tank and said reference orifice when said means for directing gas from the fuel tank to said reference orifice is actuated, and means for comparing said times determined by said time determining means with predetermined ratiometric time relationships for said pressure decays to occur in order to determine whether the

fuel tank has an acceptable leakage rate.

2. The tester as defined in **claim 1** wherein said pressure determining means is fluidically connected to the fuel tank.

3. The tester as defined in **claim 1** further including a microprocessor to control said means for directing gas from the fuel tank to said reference orifice.

4. The tester as defined in **claim 3** further including means for comparing a pressure value determined by said pressure determining means with a predetermined pressure value and means for producing an output signal in response to said comparison.

(Bolded text added).

Defendants argue that claim 1 is the broadest and that claims 2-4 include each element in claim 1. Thus, if the Systech device does not infringe claim 1, then claims 2-4 would not be infringed. The Systech fuel tank tester does not utilize the same starting and ending pressure levels for the two decay stages. Also, the Systech fuel tank tester does not perform the time-ratio comparison methodology of the '089 Patent; but performs entirely different mathematical operations to determine whether a tank passes the test.

Plaintiff disputes Defendants' assertions. As was discussed with claim 5, Defendants erroneously read into these claims that the predetermined pressure levels must be identical. Moreover, a comparison of the patented device and the accused devices reveals that both compare slope ratios, using measures of pressure and time, calculate a leak diameter, and then compare that leak diameter to an acceptable pass/fail threshold diameter.

The Court finds that there are genuine issues of material fact as to whether the accused

Systech fuel tank tester infringes the '089 Patent either literally or by the doctrine of equivalents.

### **III. CONCLUSION**

There are genuine issues of material fact as to whether the accused devices, i.e., the original Systech fuel cap tester and the original Systech fuel tank tester, are encompassed by the claims in Plaintiff's '712 Patent and '089 Patent. Because of Plaintiff's concessions, summary judgment of Non-Infringement of the '712 Patent is granted as to Systech's modified gas cap tester only. The remainder of the Motion (ECF DKT #148) of Defendants, Systech International, LLC and Delphi Corporation, for Summary Judgment of Non-Infringement on Counts I and II of the Second Amended Complaint and Counts I and II of Defendants' Counterclaims is denied.

**IT IS SO ORDERED.**

**s/ Christopher A. Boyko**  
**CHRISTOPHER A. BOYKO**  
**United States District Judge**

**Dated: September 24, 2015**